

Abstract of the Disclosure

An apparatus for cavity enhanced optical detection comprising:

- a) a source of optical radiation
- b) a resonant optical cavity which provides a round trip path for said optical radiation the cavity comprising:
 - i) a plurality of mirrors, the first mirror being an input mirror which receives the optical radiation and inputs it into the cavity;
 - ii) a flow cell positioned within said cavity, said flow cell comprising at least a first analysis channel which accommodates a flow of analyte fluid there through,
 - iii) a second mirror, which second mirror receives the radiation from the optical source after its passage through both said input mirror and said analysis channel and reflects said received radiation. The resonant optical cavity provides a round trip path for analyte fluid having at least two different refractive index values and the location of the point at which said reflected radiation impinges on said input mirror remains substantially the same as the point from which said first mirror inputs said radiation into said cavity notwithstanding changes in the refractive index of the analyte fluid or the wavelength of the optical radiation.